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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,096	02/11/2004	Fumio Takahashi	257708US8	1583

22850	7590	10/30/2007
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EXAMINER	
DEGHAN, QUEENIE S	

ART UNIT	PAPER NUMBER
1791	

NOTIFICATION DATE	DELIVERY MODE
10/30/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/775,096	Applicant(s) TAKAHASHI, FUMIO	
	Examiner Queenie Dehghan	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roba et al. (2001/0020374) in view of Chen et al. (6,876,804). Roba et al. disclose a method of manufacturing an optical fiber comprising: heating at least a portion of an optical fiber preform [0063]; drawing an optical fiber at a speed of 500 meters per minute or more from the optical fiber preform heated ([0063], [0084]); and impressing a spin on the optical fiber, while drawing, alternately in a clockwise direction and in a counterclockwise direction with a predetermined angle ([0086], [0087]). However, Roba et al. fail to disclose a particular spin frequency achieved in impressing spin on the fiber. Chen et al. teach impressing a spin on an optical fiber, while drawing (col. 5 lines 7-8), with a predetermined angle (col. 6 lines 4-33) in such a manner that a maximum spatial frequency "y" of the spin per meter satisfies a relationship of $\exp(24x-12) \leq y \leq 4$, where (col. 3 lines 4-10), and that a polarization mode dispersion of the optical fiber manufactured is $0.5 \text{ ps/km}^{1/2}$ or less at the wavelength of 1310 nanometers (col. 2 lines 41-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the spin rate of Chen in the process of Roba in order to

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impart a spin the fiber resulting in a low PMD, such as $0.5 \text{ ps/km}^{1/2}$ or less.

Furthermore, there is no reason to expect that the resulting fiber of Roba et al. and Chen et al. processes would not result in an optical fiber comprising a core and a cladding and having a maximum relative refractive index difference of the core with the cladding of 0.3% to 0.5% and a mode field diameter of 8 micrometers to 10 micrometers at a wavelength of 1310 nanometers.

Response to Arguments

3. Applicant's arguments filed August 13, 2007 have been fully considered but they are not persuasive. The applicant argues that the references presented do not take non-circularity into account and that *specifically, neither reference, alone or in combination, teaches or suggests impressing a spin on the optical fiber in such a manner that the that a maximum spatial frequency "y" of the spin per meter satisfies a relationship of $\exp(24x-12) \leq y \leq 4$ where "x" is non-circularity of the cladding in percent, and that a polarization mode dispersion of the optical fiber manufactured is $0.5 \text{ ps/km}^{1/2}$ or less at the wavelength of 1310 nanometers.*" It appears the applicant believes the references have to address a non-circularity of the cladding, but this does appear to be how the recited expression is presented. Instead, the expression is interpreted to mean a spin rate ("y") that is a value that ranges from $\exp(24x-12)$ to 4. Since DiGiovanni and Chen teach a spin rate of 4 spins per meter impressed on a fiber, both references satisfy the expression $\exp(24x-12) \leq y \leq 4$, and hence claim 1. Second, as already mentioned in the rejection above, Chen teaches PMD of less than $0.5 \text{ ps/km}^{1/2}$ in the fiber.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Queenie Dehghan whose telephone number is (571)272-8209. The examiner can normally be reached on Monday through Friday 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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